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Licata & Tyrrell P.C.
66 East Main Street
Marlton, NJ 08053

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| EXAMINER |
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DANIELS, MATTHEW J

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| ART UNIT | PAPER NUMBER |
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1732

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/666,639

Applicant(s)

EL-RAGHY ET AL.

Examiner

Matthew J. Daniels

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is response to the Applicant's arguments submitted 16 February 2005. The Examiner has issued a request for information (See Request for Information, below), and therefore **this action is Non-Final**.

Response to Affidavit/Declaration

2. The Applicant has submitted a declaration under 37 CFR 1.132 traversing the rejection of Claims 1-3 under 35 USC 102(e) stating that the invention is not "by another" as required by 35 USC 102(e). The declaration has been carefully considered, however, other questions have been raised. As claimed, Claim 1 is directed to a "...glove or condom former comprising..." and is not directed to any particular former structure or method of making the former. Therefore, as claimed, conception of the use of the "Ti₃SiC₂" materials in formers appears to have occurred prior to the 16 June 1999 e-mail. The declaration is insufficient to establish that the Applicant participated in both the conception and reduction to practice of using the claimed Ti₃SiC₂ material in a former because it appears that there was conception and some reduction to practice prior to the 16 June 1999 e-mail of Dr. Knight. This is evidenced by the portions of the Applicant's submitted Exhibit A shown below:

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Here (below) is what I propose to send back to Ansell Perry. Please feel free to add/change/amend as you see fit before I send it off to them.

Thanks,

Rick

Attn: Stan Gromelski.

X-ray diffraction has been carried out on three ceramic glove formers coated with Ti_3SiC_2 in order to try to understand the behavior of the material under the different use and accelerated testing conditions evaluated by Ansell Perry. Results were as follows:

This submission does appear to establish participation in reduction to practice, however, the words “back” and “evaluated” particularly appear to indicate conception took place prior to this correspondence. It also appears that Dr. Knight participated in both conception and reduction to practice, and may therefore also be “another.” Therefore, contrary to the Applicants’ assertion, conception and reduction to practice has not been established as being exclusively by the Applicants.

Request for Information

3. An examiner or other Office employee may make a requirement for information reasonably necessary to the examination or treatment of a matter in accordance with the policies and practices set forth by the Director(s) of the Technology Center or other administrative unit to which that examiner or other Office employee reports. See MPEP 704.10. There must also be reasonable basis for the information required. See MPEP 704.11. The Examiner cites the following portion of the 22 February 2000 e-mail as reasonable basis for issuing a Request for Information under 37 CFR 1.105:

Due to new year accounting procedural changes, your payment check was mishandled and probably won't arrive at Drexel until early March. Sorry for the delay.

The Examiner states concern regarding the “public use” or “on sale” statutory bar under 35 USC 102(b), and sets forth this request for information to require a) information pertaining to the nature of this financial transaction referenced in the Applicant’s declaration, and b) any available evidence that the transaction and collaboration with Gromelski, et al, was not “public use” or “on sale.” See MPEP 2133.03.

Response to Arguments

4. Applicant's arguments filed 16 February 2005 have been fully considered but they are not persuasive. The Applicant has traversed the rejection of Claims 1-3 under 102(e) or 103(a) and asserted by declaration that the reference is not “by another.” The rejections of Claims 1 and 2 under 102(e) or 103(a) in view of Gromelski (WIPO Publication WO 03/051791 A1) is maintained in that the Applicant has not demonstrated that the conception of glove or condom formers comprising $M(n+1)AX(n)$ materials was not “by another.”

The Applicant has further traversed the rejection of Claims 1 and 2 under 35 USC 103(a) over Adasch (USPN 5194204) in view of Barsoum (J. Am. Ceram. Soc. 79[7] (1996 1953-56) and the rejection of Claim 3 under 35 USC 103(a) over Adasch (USPN 5194204) in view of Barsoum (J. Am. Ceram. Soc. 79[7] (1996 1953-56) and Hadfield (USPN 1635576). The arguments appear to be on the grounds that Barsoum is silent to resistance to acids and bases, Adasch teaches that metal formers are corroded, and because the article of Barsoum contains a metal, the combination would not have been obvious. This argument is not persuasive for the following reasons. Firstly, Barsoum’s teaching is not directed to a metal. It appears to be a ceramic hybrid of TiC and SiC (Page 1953, right column, first paragraph, “Ti and C react

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together"). As such, it is similar to the SiC of Adasch, which is a well known ceramic material.

On the basis of the improved thermal shock resistance alone, one of ordinary skill would have found it obvious to incorporate the $Ti_3Si_1C_2$ MAX phase of Barsoum into the former and method of Adasch because this quality would have been desirable in the method of Adasch (2:60-64). In view of the thermal shock resistance of the ceramic phase taught by Barsoum, it would have still been prima facie obvious to combine the methods. It is noted that the Applicant has not separately argued the rejection of Claim 3. The rejections are respectfully maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Gromelski (WIPO Publication WO 03/051791 A1). **As to Claim 1**, Gromelski teaches a glove or condom former (Page 7, Lines 10-12) comprising $M_{n+1}AX_n$ (Page 4, Table 1 and Page 7, Line 3) wherein M is a transition metal selected from scandium, titanium, vanadium, chromium, zirconium, niobium, hafnium, and tantalum, or a mixture thereof (Page 4, Table 1); wherein A is an element selected from aluminium, silicon, gallium, germanium, tin, lead and indium, or a mixture thereof (Page 4, Table 1); wherein X is carbon or nitrogen; and n is 1, 2 or 3 (Page 4, Table 1). **As to**

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Claim 2, Gromelski teaches a glove or condom former where M is titanium, A is selected from silicon, germanium, or aluminium, X is carbon and n is 2 (Page 7, Line 7).

Claim Rejections - 35 USC § 102(e)/103

6. Claim 3 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gromelski (WIPO Publication WO 03/051791 A1) in view of Applicant's admitted prior art (Pages 1-2 of the Written Description). Gromelski teaches the subject matter of Claims 1 and 2. Gromelski also teaches a method for producing a latex or synthetic polymer glove or condom comprising: (a) dipping the glove or condom former of claim 1 in a liquid latex or synthetic polymer bath (Page 1, Line 13-15); and (c) releasing the formed latex or synthetic polymer glove or condom from the former (Page 1, Line 19-20). Gromelski does not specifically teach (b) allowing the latex or synthetic polymer coating to dry on the former. However, inherently the condom/glove must dry in order for it to be removed from the former. However, in the alternative, it would have been prima facie obvious to allow latex or synthetic polymer coating to dry on a former to produce latex polymer gloves or condoms given Applicant's admitted prior art teaching to do such a drying operation (Page 2, Line 2-5). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to have included a step of allowing the latex or synthetic polymer coating to dry on the former in the method of Gromelski in order to prevent the gloves/condoms being removed from sticking together. Also, allowing the latex to dry will permit the product to be easily removed.

Claim Rejections - 35 USC § 103

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7. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adasch (USPN 5,194,204) in view of Barsoum (J. Am. Ceram. Soc., 79 [7] (1996) 1953-56). **As to Claim 1**, Adasch teaches glove formers (1:27) formed from silicon carbide (SiC) and (1:36-37) aluminum nitride (AlN). Adasch is silent to glove formers comprised of Applicant's composition. Adasch further teaches that a higher thermal conductivity (1:38-40), resistance to corrosion (1:48), and resistance to thermal shock (2:60-64) are desirable properties for glove formers. The examiner takes the position that corrosion and oxidation pertain to the same chemical process. Barsoum teaches (Page 1954, Section V, third paragraph) that it is obvious that Ti_3SiC_2 is not susceptible to thermal shock, and withstands a greater maximum thermal shock than the best thermal shock-resistant ceramics. Barsoum further teaches (Page 1956, Section VIII, first paragraph) that Ti_3SiC_2 is an excellent thermal conductor, it is easily machinable, and oxidation resistant. The references are properly combinable because both pertain to ceramics having high thermal conductivity, and also having resistance to thermal shock and corrosion. The examiner also notes that silicon carbide is a known decomposition product of Ti_3SiC_2 to show that the two materials are closely related. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to use Ti_3SiC_2 as a glove former in view of Adasch's teaching that thermal shock resistance, high thermal conductivity, and corrosion resistance were favorable qualities for a glove former and in view of Barsoum's teaching that Ti_3SiC_2 had all of these qualities. **As to Claim 2**, Adasch and Barsoum teach that which is set forth above in the rejection of Claim 1 under 35 U.S.C. 103(a). Barsoum teaches Ti_3SiC_2 specifically. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to use Ti_3SiC_2 as a glove former in view of Adasch's teaching

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that thermal shock resistance, high thermal conductivity, and corrosion resistance were favorable qualities for a glove former and in view of Barsoum's teaching that Ti_3SiC_2 had all of these qualities.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adasch (USPN 5,194,204) in view of Barsoum (J. Am. Ceram. Soc., 79 [7] (1996) 1953-56), and further in view of Hadfield (USPN 1,635,576). Adasch and Barsoum are silent to the specific steps set forth by Applicant in Claim 3. Hadfield teaches a method for producing a latex or synthetic polymer glove comprising: (a) dipping the glove former in a liquid latex or synthetic polymer bath (Page 1, Line 88); (b) allowing the latex or synthetic polymer coating to dry on the former (Page 1, Line 93-94); and (c) releasing the formed latex or synthetic polymer glove from the former (Page 1, Line 57-58). It would have been prima facie obvious to one of ordinary skill in the art to use the method of Hadfield for forming gloves into the apparatus and composition of Adasch and Barsoum because doing so would produce useful gloves that could be sold for significant financial benefit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJD 4/10/05



MICHAEL P. COLAIANNI
SUPERVISORY PATENT EXAMINER